





# Confusing education and training

MR BRIDGER In his letter of January 4 makes a strong case for the provision of microcomputer systems in further education colleges.

While his case is valid, he unfortunately suggests that such provision should be at the expense of schools since the "high-fliers of 18+ readily absorb computer concepts at universities and polytechnics without previous school computer studies".

I fear that Mr Bridger is confusing education and training. Schools require to provide basic skills training (literacy, numeracy...) and a broad basis of education relevant to contemporary society. This is why the provision of an adequate computing resource is essential. No one can deny the relevance of the computer to contemporary society and it is vital that

JOHN TURNBULL  
The National Computing Centre  
Manchester M1 7ED.

## A laudable first

I'M sorry I can't share Professor Michie's interest in maze-solving mice, but I would like to correct an error in his article (Privateview, January 1). The Univac machine in 1953 was certainly not the first commercially available large-scale computer.

I joined the computer unit of Ferranti in August 1951 when the second Mark 1 type machine was approaching completion; it was already sold to the University of Tomato. The first Mark 1 machine had earlier been installed at Manchester University and was a working machine (ie productive) then. These two were followed by seven more of

DAVID WILDE  
Senior Lecturer  
Bristol University  
*I am glad to accept Dr Wilde's correction concerning the Ferranti Mark 1, which I had not realised was commercially available before 1953. I was certainly aware of the Ferranti machine in the academic context. Alan Turing used it in an (uncompleted) attempt to program an experiment on which he and I were then engaged in computer chess.* — Donald Michie.

Donald Michie.

— Donald Michie.

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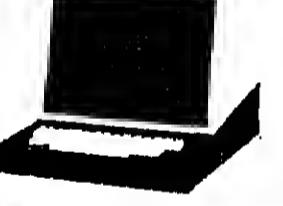
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## Cable and Wireless executive appointments



PROMOTED to the position of general manager of Cable and Wireless UK Services is Richard Killick. He was formerly head of Cable and Wireless Computer Systems, and prior to that was director of engineering with Honeywell. Previously product planning manager with Cable and Wireless Communications Systems and Services, Arthur Velich has become marketing manager of Cable and Wireless UK Services. He joined the company from ITT where he was data product manager.

Las Hozelgrove has been appointed European marketing manager for National Semiconductor Computer Products Group Europe. He joins the company from Data General where he was regional sales manager. In his new position he will be responsible for OEM sales of IBM-compatible products and European headquarter product marketing.

Chris Baan has joined Datacom as sales manager responsible for accounts in Wales and the West. He was previously a sales consultant with ICL Datacall in Cardiff.

David Wildman has been appointed associate sales director of ICL (UK), with responsibility for the South-East. He was formerly product marketing manager for distributed data processing with IBM.

### DIARY

FEBRUARY 5  
Fortran programming for Codasyl data base work. BCS Fortran Specialist Group, Board Room, BCS, 13 Mansfield Street, London W1 1LW.

Developments in medical computing. Dr B. Barber, BCS East Anglia branch, Addenbrooke Hospital, Hills Road, Cambridge, 19.00.

FEBRUARY 6  
The computerisation of on-course tournaments. Hilsley, IEE Control and Automation division, IEE, Savoy Place, London WC2R 0BL, 17.00.

Advanced memory devices. D. Parrau, BCS N. W. London branch, Railways Hotel, Greenford, 19.30.

Medical diagnosis by computer. F. T. Davies, BCS Leicester branch, James Watt Building, The Polytechnic, Leicester, 18.15.

Computer operations — the poor relation? J. K. Haynes, BCS Birmingham branch, Priory Lane Hotel, Edgbaston, Birmingham, 18.20.

FEBRUARY 7  
ACM/Distributed computing. BCS Data Communications Group, Chemistry Building, Birkbeck College, London WC1, 19.30.

Interfacing software. Study Group on Computer in Survey Analysis. City University, London. Details from John Utting, National Bureau, 8 Walney Street, London EC1V 7QE.

Advanced computing — discussion and ACM BCS Data Communications Group, Chemistry Lecture Theatre, Birkbeck College, Malet Street, London WC1, 10.30.

Word processing — practical techniques. N. Barwick, BCS Kingston-on-Thames branch, Regional Management Committee, 19.00.

Of factors and IBM. Dr S. Gill, BCS Hounslow branch, Witterby Manor Hotel, Witterby, 19.30.

FEBRUARY 8  
Systems thinking. Brian D'Herin, BCS Reading branch, ICL building, Lovelace Road, Bracknell, 20.00.

Visit to Culham laboratory, BCS Didcot branch, Oxfordshire, 19.30.

Modem. IBM CUA, Scottish group, Stirling, 19.00. Tel: 01-531 1043.

FEBRUARY 13  
Systems thinking. Brian D'Herin, BCS Reading branch, ICL building, Lovelace Road, Bracknell, 20.00.

Computers in X-Ray scanning — a breakthrough in diagnostic medicine. B. J. Winstanley, BCS Farnham Halls, Croydon, 19.15.

Future developments in information systems. K. Smith, BCS, Portsmouth Management Centre, Portsmouth, Hampshire, 19.00.

Computer aided design of printed circuit boards. K. Bennett, BCS Horoway Technical College, Horoway, 19.30.

APPOINTED to the NCR Corporation board of directors are Richard Terrell and Edward Schlegel. Terrell is former vice-chairman of General Motors and Schlegel is executive vice-president and a director of Caterpillar Tractor Company.

OR ROBERT HEIKES, who left Motorola last November over a "philosophical dispute" with the company (CW, November 23), has reappeared on the semiconductor scene, this time with Nixi Semiconductor.

From the beginning of this month, he is taking up an appointment as vice-president, international, with the company. In this new position, he will be responsible for all of Nixi's business in Europe and Latin America, and will report directly to Nixi President Charles Sporsch. He will be based at the company's European headquarters in Fuerstenfeldbruck, West Germany.

He is well known in Europe, having been for some time Motorola's European managing director, based in Geneva.

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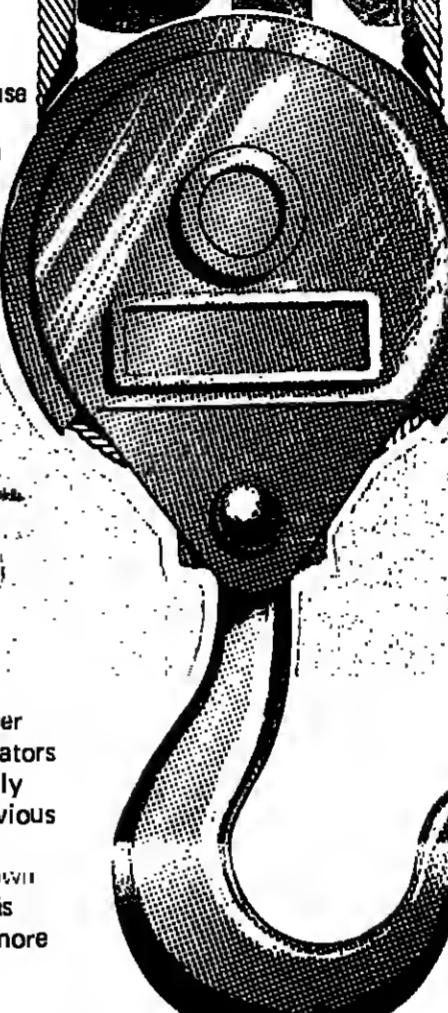
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As Implementation Project Leader, you'll be responsible for the smooth transfer from Development into Operations of the systems designed and tested at the Corning U.K. Data Centre. Right now you may be a Senior Programmer with 3 years' IBM experience or an Implementor looking for a stepping stone to the future; either way, OS/VS and JCL experience is vital.

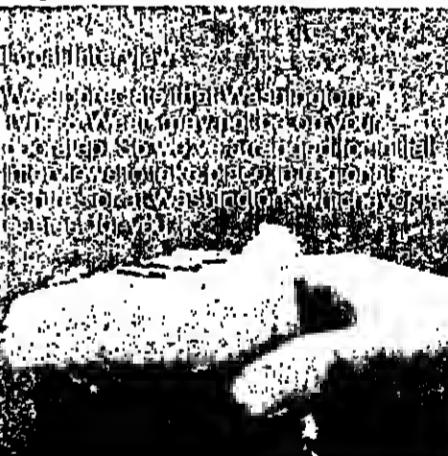
Our new Implementor will take up the challenge of the development,

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For all the above posts, we offer you a rather generous slice of cake to help you make up your mind: excellent salaries, all relocation expenses, a good pension scheme, potential international travel, and dazzling prospects within the U.K. or overseas.

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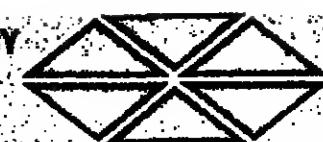
Please contact:  
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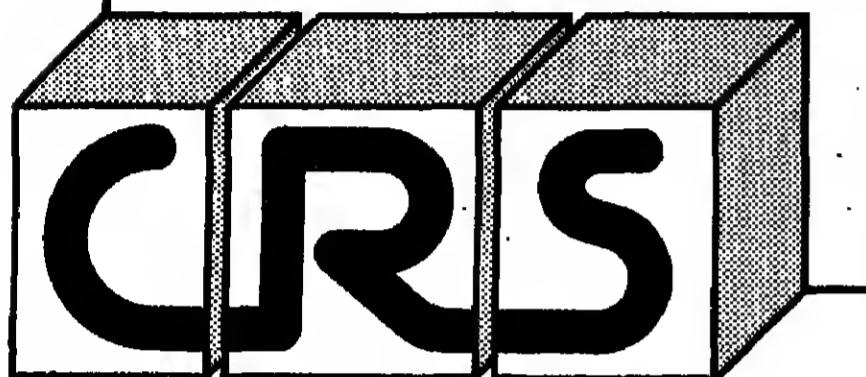
All computer development is centralised through the Systems Services Department based in London. Due to continuing demands for the department's services, additional D.P. Professionals are required to extend the services into new functions and areas.

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Actual starting salary will depend on individual qualifications and experience, however competitive salaries will be offered to successful candidates and supported by a substantial range of fringe benefits.

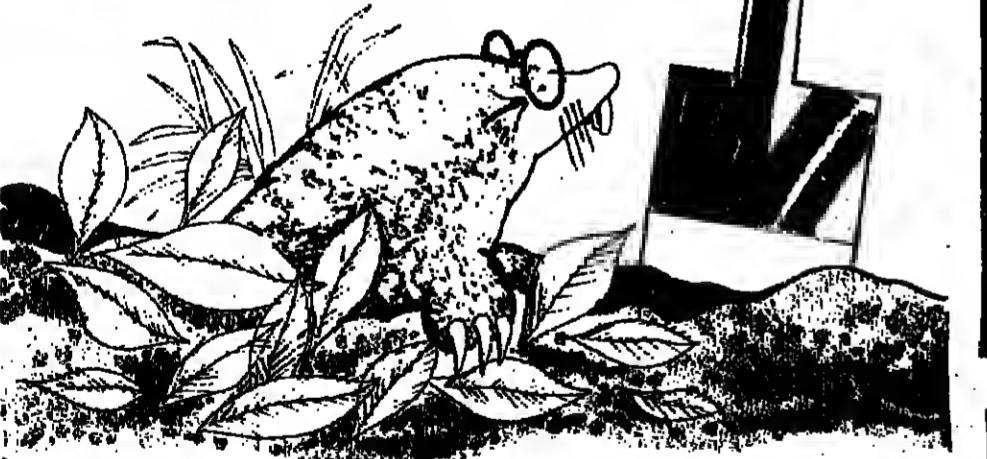
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3 YEARS' EXPERIENCE B1700/B1BOO  
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Aged 24 upwards — married or single.

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- preferably from design through to implementation
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Senior Personnel Consultant**

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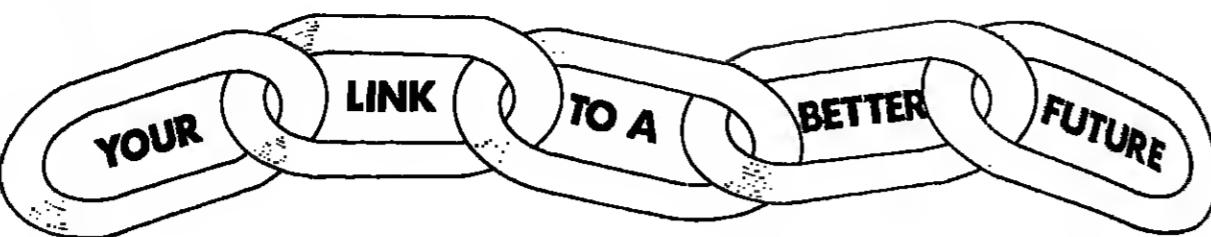
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**CARBORUNDUM DATA SYSTEMS LIMITED**



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To £8,500

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To apply, please write giving full details, age, current job, qualifications, etc.

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# MIDLANDS/WEST COUNTRY

## D.P. Recruitment Specialists

**SUPPORT PROGRAMMER.** Required by Midlands manufacturer. At least 12 months' commercial programming language. Area: Birmingham. Salary: £6,000 plus expenses. Ref. P121.

## D.P. OPERATIONS

**OPERATIONS PLANNING ASSISTANT.** Must have several years' experience with IBM Mainframe using ICL, OS together with a knowledge of Software or packages. Area: Staffs. Salary: £6,000. Ref. SA176.

**OPERATIONS TEAM LEADER.** At least 3 years' experience with sound knowledge of George III Area. Working Salary: £7,000. Ref. P116.

**SHIFT LEADER.** At least 3 years' experience with sound knowledge of George III Area. Working Salary: £7,000. Ref. P116.

**OPERATOR.** 2 years' experience using IBM DOS/VS Area. Working Salary: £4,000 plus. Ref. P117.

**COMPUTER OPERATOR.** 1 year plus experience in IBM 370 using DOS/VS. Double Shift Area. Working Salary: £4,500. Ref. P149.

**OPERATOR.** At least 18 months' experience using IBM DOS/VS. Double Shift Area. Working Salary: £4,400. Ref. P118.

**SENIOR COMPUTER OPERATOR.** At least 18 months using IBM DOS/VS Salary: £4,000 plus. Ref. P119.

**PUNCH ROOM SUPERVISOR.** Must have supervisory experience plus 3 years working in a Punch room. Area: Birmingham. Salary: £7,300. Ref. P151.

**Contact: Graham Aston, 141, E.C.**  
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**SOFTWARE MANAGER.** At least 4 years in D.P. Systems Area. Longlength experience of Machine Code or Assembler language, understanding of V.R.C. and Micro Computer. Cassette and Floppy Discs. Communicative person preferred, able to use own initiative and deal face to face with customer interests. Area: West Midlands. Salary: £7,500 plus company car and expenses. Ref. M42.

**BUREAU BALER.** Baler required by International Computer. Must be from a large, successful sales team. Extensive systems sales experience within a bureau environment. This management position is based in Birmingham, but travelling throughout the Midlands, Wales and West Country will be required. Quota earnings £8,500 plus company car and expenses. Ref. M41.

**PROJECT LEADER.** At least 3 years in Systems Analysis, and Design, including Batch applications. Area: Birmingham. Salary: £6,500. Ref. SA187.

**PROJECT SALES.** At least 4 years' Commercial Systems specialising in financial applications especially Order Processing or General Ledger. Area: West Midlands. Salary: package around £8,500 plus liberal car and mileage allowance. Ref. SA219.

**SYSTEMS CONSULTANT.** Required for consultancy company, mainly specialist in financial area. Communicative person preferred with ability to work on an individual basis. Area: Derbyshire. Salary: £8,500 plus car and bonus. Ref. P290.

**SYSTEMS ADVISOR.** Required by International Micro-computer manufacturer for Pre and Post sales activities. They will be required to specialise in implementing software packages. A good knowledge of ICL, COBOL, RPG II, and PL/I, and experience of 4-2 years. Systems Analyst. Although the position is based in Birmingham, covering the Midlands area, occasional travelling throughout the U.K. would be required. Salary to £8,000 plus bonus and car allowance. Ref. SA201.

**SENIOR SYSTEMS ADVISOR.** For main frame manufacturer. At least 4 years' experience in Systems Analysis, and Design, including Batch applications. Area: Birmingham. Salary: £7,500 plus car and expenses. Ref. SA129.

**SYSTEMS SUPERVISOR.** At least 4 years in Analysis and Programming in RPG II. Knowledge of stock control or order processing applications an advantage. Area: West Midlands. Salary: £6,000. Ref. SA171.

**SYSTEMS CONSULTANT.** Experienced with IBM small mainframe and Micro Computer. Area: Gloucestershire. Salary: £6,500 plus expenses. Ref. P291.

**SENIOR SYSTEMS ANALYST.** For development of commercial systems using PDP 11/34. Some client contact and trouble shooting involved. Area: Gloucestershire. Salary: £6,500. Ref. SA218.

**SYSTEMS ANALYST.** At least 3 years' experience using IBM System J hardware. Area: Nottinghamshire. Salary: £6,500. Ref. SA216.

**SYSTEMS ANALYST.** At least 3 years' experience using IBM 370. Area: Nottinghamshire. Salary: £6,500 plus expenses. Ref. P127.

**SUPPORT PROGRAMMER.** For Pre and Post support. At least 2 years using Cobol, RPG II or Assembly. Mainframe manufacturer. Area: Nottinghamshire. Salary: £6,500. Ref. P124.

**SYSTEMS PROGRAMMER.** For Software development. Around 2 years' experience with knowledge of CICS. Area: Lincolnshire. Salary: £6,500. Ref. SA198.

**PROGRAMMER.** At least 10 months' Programming in Cobol. Area: Assembler Area. Burton-on-Trent. Salary: £6,500. Ref. P127.

## ANALYSTS/PROGRAMMERS

**ANALYSTS/PROGRAMMERS.** At least 3 years' commercial applications using ICL. Area: West Midlands. Salary: £6,000. Ref. P377.

**SUPERVISOR.** At least 3 years' experience using IBM DOS/VS. Area: Nottinghamshire. Salary: £6,000. Ref. P116.

**SHIFT LEADER.** At least 3 years' experience using IBM DOS/VS. Area: Nottinghamshire. Salary: £6,000. Ref. P117.

**OPERATOR.** 2 years' experience using IBM DOS/VS. Area: Nottinghamshire. Salary: £4,000 plus. Ref. P117.

**COMPUTER OPERATOR.** 1 year plus experience in IBM 370 using DOS/VS. Area: West Midlands. Salary: £4,500. Ref. P149.

**OPERATOR.** At least 18 months using IBM DOS/VS. Area: Nottinghamshire. Salary: £4,000 plus. Ref. P118.

**SENIOR COMPUTER OPERATOR.** At least 18 months using IBM DOS/VS. Area: Nottinghamshire. Salary: £4,000 plus. Ref. P119.

**PUNCH ROOM SUPERVISOR.** Must have supervisory experience plus 3 years working in a Punch room. Area: Birmingham. Salary: £7,300. Ref. P151.

## PROGRAMMERS

**CHIEF PROGRAMMER.** At least 4 years of programming with good working knowledge of ICL 1100/1110. Area: Staffs. Salary: £7,000. Ref. P127.

**FORTRAN PROGRAMMER.** Work from home and interactive on-line to work on Marketing and Production Control Systems. Permanent or Contract position. Area: Swindon. Salary Negotiable. Ref. P121.

**SYSTEMS PROGRAMMER.** Must have experience in 370/4 using IBM terminals. Programming experience of Datacoms and know how an advantage. Area: Nottinghamshire. Salary: £6,500 plus expenses. Ref. P127.

**SUPPORT PROGRAMMER.** For Pre and Post support. At least 2 years using Cobol, RPG II or Assembly. Mainframe manufacturer. Area: Nottinghamshire. Salary: £6,500. Ref. P124.

**SYSTEMS PROGRAMMER.** For Software development. Around 2 years' experience with knowledge of CICS. Area: Lincolnshire. Salary: £6,500. Ref. SA198.

**PROGRAMMER.** At least 10 months' Programming in Cobol. Area: Assembler Area. Burton-on-Trent. Salary: £6,500. Ref. P127.

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<b>£230 p.w.</b>	<b>COMPILER PROGRAMMER</b>	<b>COBOL</b>	<b>HERTS</b>
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370 COBOL PROGRAMMERS .....	£220	1900 FILETAB/CORBL PROGRAMMERS .....	£220
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370 PL/1 PROGRAMMERS .....	£220	1900/2000 DIVER PLAN PROGRAMMER .....	£220
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Salary will be negotiable at £8,000+ and fringe benefits will include a company car, private medical insurance etc.

Full details please to:

Box 1998, Computer Weekly

All applications will be treated in strict confidence.

They are looking for an Analyst/Programmer who they consider to be developing the system. The successful candidate will probably have a degree or professional qualification and at least 3 years' experience in RSTS operating systems could be an added qualification. The ability to organise and manage people is no less important.

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Box 1998, Computer Weekly

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They are looking for an Analyst/Programmer who they consider to be developing the system. The successful candidate will probably have

# STAFFSCENE

RECRUITMENT LTD.

**HONEYWELL 66/10 + £6,000!!! + O.T.**  
**2 SHIFT SYSTEM**  
**NO NIGHT SHIFT**

Our client in W. London urgently requires an experienced GCOS professional. The tremendous opportunity involves plenty of responsibility and a good technical knowledge of GCOS. The prospects for a dynamic operator are superb as are the working conditions and environment. Ring now for further details.

### ICL SENIOR OPERATOR

**£5,000**

A leading blue chip company visit to the British economic scene are willing to offer outstanding opportunities to people who demonstrate the drive and ambition necessary to select the most from positions with almost immediate potential. The company offers excellent career development structure, along with a good package which includes a house-trained IBM Remote Unit System using HATS. If you possess good GEORGE II experience and wish to work in the CITY, ring now for immediate interview.

Ref. LJ/895

FOR FURTHER DETAILS CONTACT US NOW

STAFFSCENE (AGY)  
70 BREWER STREET  
LONDON W1R 3PJ

**01-734 5202**  
24-hour answering service

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RECRUITMENT LTD.

**PROGRAMMERS**  
**COBOL PL1 RPG11**  
**£4500-£7000**

If you're a Programmer who would welcome the challenge of working in REAL TIME BATCH DATABASE or COMMUNICATIONS systems now is the time for action.

We have client - Software houses, consultancy users, retail organisations, banks and insurance companies - who require Programmers at all levels.

The emphasis is on IBM and ICL, but any hardware experience would be more than acceptable. This plus between 6 months to 2 years' experience of either COBOL PL1 or RPG11 will guarantee a first-class move upwards.

Ref. 678

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### COBOL PROGRAMMERS

**WEST LONDON**

**Up to £6500**

See the fares increase - work nearer home in the NEW YEAR. PHONE NOW for details of our many vacancies in the West London area. Salaries are high and benefits range from Season Ticket Loans to Relocation Packages. Ref. 684/691

### ICL COBOL

**CITY**

**C £6000**  
+ Mortgage

Our client, a major Insurance Company is seeking programmers with approximately three years experience in ICL hardware. Any experience gained in a supervisory capacity would be a distinct advantage.

An excellent starting salary is coupled with an attractive package which includes Season Ticket Loans, Car Purchase Scheme and a Subsidised Mortgage.

Ref. 680

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# STAFFSCENE

RECRUITMENT LTD.

### COBOL PROGRAMMERS

**WEST END**

**Up to £6500**

A leading multi-national company based in the West End require competent COBOL programmers who wish to advance their careers to analysis or team leadership in a stimulating and progressive environment.

If you can offer two years' commercial experience gained on ANY MAINFRAME and can display the drive and enthusiasm to contribute effectively under pressure they would like to see you.

The installation is based on IBM equipment running under OS but full training will be given where necessary. The usual "big company" benefits include staff crontoon, pension scheme and regular salary reviews.

Ref. 707

FOR FURTHER DETAILS CONTACT US NOW

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LONDON W1R 3PJ

**01-734 5202**  
24-hour answering service

# Hertfordshire

**c. £7,000**

IBM 370, CICS/VS, DOS/VS, VSAM.

### Programmer

with 3 years COBOL experience in a DOS environment. Some ASSEMBLER would be additional advantage.

### Systems Programmer

with 2 years ASSEMBLER/COBOL, ideally with DOS/VS and VSAM.

These are the type of people our client would like to meet and talk to about the two senior positions he wishes to fill.

He is the Data Processing Manager of a large company whose products are almost household name in most Western countries, and he controls a DP division committed to new and extensive systems development over the next few years utilising 370 hardware in a real time environment. He can offer you real opportunities for extending your knowledge and experience to fit the changing demands of the 1980's. He can offer an excellent starting salary, pension scheme, free life assurance, subsidised lunches and other meals in the company's restaurant, valuable discounts on the purchase of the company's products, relocation expenses where appropriate, and freedom from commuting. AND a progressive career.

### TO APPLY

Please send immediately a ONE PAGE handwritten or typed list of name, address, age, home and office telephone numbers, relevant programming experience, hardware and software exposures, present position, employer, salary, previous employment, to ANTHONY SPURR, Management Recruitment Division, quoting reference number G692. Please indicate on the reverse side of your application those companies to whom you would not wish your application to be sent directly. All applications will be answered promptly. Applications are invited from people of either sex.

or Why not telephone now?  
Watford 32861, quoting G692

BIS Applied Systems Limited  
York House, 199 Westminster Bridge Road  
London SE1 7UT  
Telephone 01-633 0006

**BIS**  
Applied Systems

### Computer Operator/Programmer

**£3564-£3936 p.a. inc.**

An interesting opportunity to join the reorganized computing service at Middlesex Polytechnic. The Polytechnic has a DECsystem 10 computer and you will join a small team responsible for the remote access terminal at our Bounds Green site in North London. While the main element of the post is operating activities, opportunities will arise to train and assist with the programming.

You should have good relevant experience of computer operations work, preferably in an interactive environment, possess common sense and an accurate approach to work.

Telephone GILL Maddan on 01-202 8848 for an informal discussion or write for full details and an application form quoting ref. 3218. Post your letter, first class to: Appointments Officer, Middlesex Polytechnic, Bounds Green Road, London, N11 2ND. Closing date February 6th.

Middlesex Polytechnic

# STAFFSCENE

RECRUITMENT LTD.

### IBM SENIOR OPERATOR

**WEST END**

**UP TO £5500**

Our client, a leading cosmetics firm in the West End, are currently looking for people to "make-up" a team of young operators. If you can offer a good working knowledge of DOS, and can display the drive and enthusiasm to contribute effectively in this progressive environment, they would definitely like to see you.

The installation currently runs using an IBM 370/135 under DOS POWER. This may operate on a DOUBLE DAY SHIFT system which runs from 7 a.m. to 5 p.m.

The company offers excellent career development structure, along with benefits such as: Pension Scheme, Subsidised Canteen, 30% Staff Discount, 4 Weeks Holiday and L.V.s.

Ref. LJ/788

FOR FURTHER DETAILS CONTACT US NOW

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**01-734 5202**

24-hour answering service

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### COBOL PROGRAMMERS

**WEST END**

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A leading multi-national company based in the West End require competent COBOL programmers who wish to advance their careers to analysis or team leadership in a stimulating and progressive environment.

If you can offer two years' commercial experience gained on ANY MAINFRAME and can display the drive and enthusiasm to contribute effectively under pressure they would like to see you.

The installation is based on IBM equipment running under OS but full training will be given where necessary. The usual "big company" benefits include staff crontoon, pension scheme and regular salary reviews.

Ref. 707

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### NATIONAL EMPLOYERS' MUTUAL INSURANCE ASSOCIATION LTD.

ASCOT

### PROJECT LEADERS

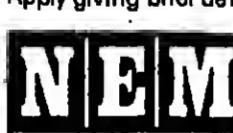
These positions are in the Computer Development Section. The Company is embarking upon a major extension to its data processing activities. A 370/138 is due for installation in July 1979 and a pilot 3790 distributed network will be implemented in the first quarter of 1979.

Future plans include a branch TP network throughout the U.K. The Project Leader will report directly to the Computer Development Manager and be involved in all aspects of development work from feasibility study through to implementation. Responsibilities will include team leading of internal and external staff. Posts are based at Ascot, but the requirement will exist to work on site at our London H.Q. and in Branches. Applicants should be experienced systems analysts, preferably with a sound IBM 360/37 programming background. Ability to communicate effectively with users and to exercise effective management control of projects is essential.

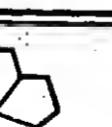
We are based in pleasant surroundings in Ascot and can offer attractive fringe benefits:-

- Assistance with re-location expenses
- Non-contributory pension scheme including free life cover
- Free lunches
- Assisted mortgage scheme
- Annual Christmas bonus
- Paid overtime
- SALARY NEGOTIABLE

Apply giving brief details to:



W. D. M. Curte  
Data Processing Manager  
Phone Ascot (0980) 24728  
N.E.M.G.I.A. Ltd., N.E.M. House  
Kings Ride, Ascot, Berks SL5 8AD



SOUTH WEST UNIVERSITIES  
REGIONAL COMPUTER CENTRE  
University of Bath

### ICL 2980 OPERATIONS

The Regional Centre operates a large 2980 system under VME2000 computer service to Universities in the South West via several computer centres. Applications are invited from experienced programmers, arising from the need to expand from 2 to 3 shift operations.

SHIFT SUPERVISOR and  
SENIOR OPERATOR

Salaries: £5,374 to £6,444 plus allowance of £531 to £631 per annum. Shift Premiums: £1.20 to £1.40 per hour. Shift Premiums: £1.20 to £1.40 per hour. Application forms and further particulars are available from: Mr. Ivor Norton, Management Services Ltd., 100 Kingsmead, Bath, BA1 1JL. Closing date: 28th February 1979.

### SYSTEMS ANALYSTS

**Herts to £7,000**

A financial services organisation offers first class opportunities for Analysts to develop on-line, real-time, and data base systems on an IBM Mainframe. At least 2 years' analysis experience in a commercial environment is required.

The company offers excellent conditions of employment including staff loans and a mortgage subsidy.

Ref. 5/1

### ANALYSTS / PROGRAMMERS

**Saudi Arabia to £11,000 tax free**

An expanding computer services organisation seeks Analysts / Programmers with at least 5 years' experience on mini-computers and a COBOL programming background to join their new division providing turnkey systems.

The company offer excellent career prospects together with an attractive remuneration package. Initial interviews will be held in London in February.

Ref. 5/2

### HARDWARE / SOFTWARE SPECIALISTS

**Surry to £6,000+**

Our clients, a market leader in the avionics industry offer challenging opportunities to people with experience in the development of advanced software preferably on mini computers. A degree is a prerequisite and some experience in FORTRAN/BASIC is highly desirable.

Ref. 5/3

### TRAINEE TECHNICAL EDITORS

**to £4,000**

A major computer manufacturer offers interesting opportunities to graduates, preferably with a language degree to be involved in the production of a range of technical and sales literature using word processing techniques. Training will be provided for the right people.

Ref. 5/4

# INFORMATIX UNITED KINGDOM AND OVERSEAS INDEX

## Haven Informatix Limited

24 Grays Inn Road London WC1X 8HR Telephone 01-831 6055 Telex 299539 HAVEN G

RECRUITMENT CONSULTANTS

# PROGRAMMERS AND SENIOR PROGRAMMERS

**START £4750 - £5750**

## LEEDS

**Informal interviews next Thursday Friday and Saturday**

A major Leeds based client wishes to recruit additional programmers and senior programmers to join teams working in an expanding installation.

The promotion prospects, job satisfaction and overall career development opportunities would be difficult to beat anywhere.

### EXPERIENCE REQUIRED - 1 YEARS COBOL UPWARDS

Come and discuss these opportunities informally with us and the client's management team at the following locations. No appointment is necessary.

### LEEDS

# Barclaycard

Barclaycard's latest business developments include providing a complete service for retailers' own credit cards.

The computer system — developed with the BARIC Computer Bureau — will need to progress in response to planned growth and the requirements of individual retailers.

The Project Team requires:

## Project Controller

who will be responsible for the development of the system.

Commencing salary £6374.

## System Designer

who will specify the detailed requirements to BARIC and handle testing and implementation.

Commencing salary £6525.

## Business Analyst

to work on related aspects of the system.

Commencing salary £4018.

Education to a degree level or equivalent is particularly important for the two senior positions, together with 2-5 years computing experience in a commercial or financial environment.

Fringe benefits normally associated with the Banking industry.

For further information, please apply giving full career and personal details, indicating which post is of interest to:

P. E. Kempton, Manager, Staff Administration, Barclaycard, Northampton NN1 1SG  
Tel: (0604) 21100 extn: 2341

# Telford

Your Opportunity

TELFORD DEVELOPMENT CORPORATION  
DEPARTMENT OF ENGINEERING SERVICES  
HIGHWAYS AND TRANSPORTATION SECTION

## COMPUTING ASSISTANT

New Town Grade IV  
 (£3,420-£3,834) plus £312 per annum

Applications are invited from Computing Assistants (Male or Female) with experience in the use and programming of computers and/or programmable calculators.

The Department makes extensive use of computer-aided design techniques and the successful applicant will be expected to give guidance to engineering staff on the use of computers in the design and analysis aspects of Highway Design.

Additionally, there is a requirement for the writing and maintenance of "Forces" programmes on in-house and bureau main frames as well as on 8 Hewlett Packard programmable calculators.

Applicants should possess at least five O'level including mathematics, and have the ability to communicate with staff at all levels. Experience of a high level in computer programming would be an advantage.

Carry out all relevant, assigned responsibilities, in a Government Supervision Scheme, non-contributory life insurance, 100% removals paid, settling in allowances up to £100 and legal and house agents costs of moving to Telford payable in appropriate cases. Rented housing available. Prices of private houses available on application. Details of the scheme can be obtained from the Secretary, Telford Development Corporation, Priors Hall, Telford, Shropshire TF2 9NT.

## UCC/CIL PLOTTER OPERATORS — A NEW OPPORTUNITY!

We have immediate requirements for the following staff to join a new Optronics Service Bureau, to be located in a new building in London, NW1 (corner of Hampstead Road and Euston Road):

EXPERIENCED PLOTTER OPERATORS, whose duties will include operating CIL's new range of intelligent flat bed and drum plotters.

SENIOR PLOTTER OPERATOR, preferably with —

Some programming knowledge in the technical field.

Experience in working directly with Clients.

Initiative, coupled with enthusiasm and a pleasant outgoing personality.

Full support will be available from UCC's comprehensive bureau terminal facilities and from their specialised technical groups.

This is a completely new operation, and offers considerable scope for the right people. If you believe that you can match our requirements, please write in the first instance to: Mrs. S. Gough, Computer Programming Limited, School Lane, Chelmsford, Essex, CM1 1LA.

## Database Designers & Analysts

Holland, Germany & London

£4.6-8K (U.K.)  
£10-15K (E.E.C.)

An International client with offices in London and Europe is entering another major expansion phase for which they require additional Database expertise including Project Leaders, Systems Designers, Analysts and Senior Programmers. The latter should be skilled in either PL/I, COBOL, Assembler or Mark IV. Both Database and Data Communications experience would be welcome. Applications are varied but include Banking systems, Airline booking and Stock control. Not less than two years relevant experience will be considered and for more senior positions 4 years is the minimum. U.K. based personnel may have frequent opportunity to travel to Europe and the U.S. (if desired). Europe based personnel are given very generous expenses and frequent paid trips back to the U.K. Salaries needless to say are going to be well above the norm in keeping with the client's prestige and the importance which they place on the acquisition of these key personnel.

Ref. 0102/1

## Mini Software at Logica

Holland & Belgium

£10,000-£16,000 p.a.

Would you like to join the Dutch subsidiary of a world leader in Mini & Micro computer applications? The company itself is a British based international group with offices in five continents. They specialise in the supply of Bespoke turnkey systems based on Mini & Micro processors specifically in the Communications, Message Switching, Network, Process Control and basic software fields. Any assembler language is desirable. To meet their expansion goals they are

creating numerous additional specialist project teams requiring Consultants, Project & Team Leaders, Analysts and Programmers at various levels, specifically a) 5 years plus b) 2-5 years c) Trainees up to 2 years. If the idea of working at the sharp-end of sophisticated technical computer pioneering appeals and joining a very prestigious company is meaningful in your career development then you must give consideration to these opportunities.

Ref. 0102/2

## Minis-Micros Designers, Programmers

H. Counties & Cheshire

£6.5-£9K

A prestige Client with Headquarters in London and regional offices located in Cheshire and throughout Europe urgently requires the following: Real-time & On-Line Programmers & Systems Designers, Database & Compiler specialists with 2-5 years solid experience. Of particular interest would be people with relevant experience in one or more of the following: DEC with either BASIC, RTL II or CORAL, IBM or ICL with COBOL, Assembler or PL/I. Also Ferranti Argus or IMS or Database design specialists are welcome. The

scope of projects is both broad and demanding and certainly in keeping with the prestige of this client. You will play an important role in project development and will be given considerable autonomy in developing your technical expertise and enhancing your contribution to the work of this reputable group of which you will be more than proud to be a member. We anticipate Salaries of between £6 and 9K being accepted.

Ref. 0102/3

## PDP-11 Analysts

Austria

£11-14K

A British Multinational corporation has several senior openings in their Austrian subsidiary. They require Analysts, Systems Designers and Analyst/Programmers with PDP 11 backgrounds. Ideally some of the senior applicants will have a military systems background and/or distributed processing experience. Whilst these positions are permanent it is not necessarily implied that the Austrian posting will be indefinite. The

opportunity to transfer to other European installations or back to the U.K. is open to all applicants. Salaries and associated fringe benefits will not only reflect the local cost of living but are computed to provide a realistic standard-of-living improvement. Emphasis will be placed on depth of previous experience and stability in job progression throughout your career.

Ref. 0102/4

## Business Consultant

City of London

£8-9K

Your Banking involvement as a Business or Systems Consultant will earn you excellent financial rewards with this "blue chip" Systems House and Financial Consultancy. It's a definite plus point to have been associated with mini computers operating in a distributed processing environment and for those with current IBM System 3/32 or 34 knowledge then the financial and promotion prospects are even greater. The successful

candidate will be part of a project team of 6 comprising Systems/Business Analysts and Programmers developing and implementing a new foreign exchange system for the City offices and its European counterparts. Interviews are scheduled for early February in either our offices or the client's City branch office. Appointments can be arranged for those who prefer not leave their present work commitments.

Ref. 0102/5

## Classified

Tel: 01-491 4636

**MATRIX**  
360 Oxford Street,  
London. WIN 9HA.

CICS Analyst Programmer, O.S. or DOS with either COBOL or Assembler experience. Central London based. Salary dependent on experience to £7,250. Financial systems background preferred but not essential.

Ref. 0102/6

DENMARK + GERMANY — IBM IMS and/or Univac 1100 DBM applications exposure required for early 1978 start. Prefer permanent career person but consider contract.

Ref. 0102/7

BERKSHIRE/HANTS BORDER — Micro specialists (Intel 8080, Zilog Z80) required by turnkey systems supplier. Established U.K. company can offer outstanding career positions. Salaries to £9K+.

Ref. 0102/8

BRUSSELS — T.P. and D.B. Applications and Software Programmers. Prefer IBM software. Full relocation expenses and a wide range of real company benefits whilst salaries to £16K. Interviews at our London office.

Ref. 0102/9

BASIC PROGRAMMERS with either commercial or scientific backgrounds required by important Central London based Client. Permanent or contract positions available at salaries of £5.8K or £235p.w.u.

Ref. 0102/13

## SENIOR SYSTEMS ANALYST

### To develop a Major On-Line Communications System

A progressive International group is to develop a computerised communications system which will lead its field and transform the effectiveness of the business.

We are looking for an experienced Systems Analyst who will report to the O.P. manager for technical liaison and guidance with our outside Systems House.

A colleague should have at least 4 years' computing experience including some programming and at least 2 years' On-Line processing training.

The remuneration and conditions package for this key appointment will be very attractive and opportunities for further development exist in both the UK and the Group.

Reply in confidence by phone or letter to:

Mr. C. Morrow  
Affred Marks Bureau Ltd.  
8-9 Fifth Street, London, W.1  
Tel: 01-437 7855

IMPERIAL COLLEGE  
OF SCIENCE & TECHNOLOGY

## SENIOR LECTURESHIP IN COMPUTING

Applications are invited to fill the Senior post in the Department of Computer Science. Applications are invited for a relevant field of research as considered appropriate. The successful candidate will be expected to play a significant role in the future development of the department.

Salary: Senior Lecturer Scale (£7,906 to £12,261 plus London Allowance and US benefits).

Further details may be obtained from Professor J. H. L. Watson, Head of Department of Computing and Control, Imperial College, London SW7 2AZ, to whom applications including C.V. and full details of qualifications of three referees should be made not later than 23 February, 1979.

## The POLYTECHNIC WOLVERHAMPTON

# Head of Computing (2nd Advertisement)

Applications are invited for suitable qualified candidates for the post of Head of Computer Centre. Salary Scale: £2874-£5654. (Previous applicants are still being considered).

Further details and application form from: Personnel, The Polytechnic, Wolverhampton, 300 Queen Street, Wolverhampton, West Midlands, WV1 1LY. Application form to be returned as soon as possible.

# SOFTWARE PEOPLE

## INDUSTRIAL REAL-TIME SYSTEMS

£ Neg'l  
+ Relocation

This systems house has a thriving business based on the development of total systems for advanced control applications in many areas of industry. Typically, their systems are built round DEC PDP/11 hardware, with Micro-computers now well established as system elements currently LS1-11, INTEL 8085 and RCA 1802.

The company is small — but with very substantial financial backing — and growing fast. So more people are needed who have experience in either high-level or Assembler languages, to participate in this growth. Training will be given to those with similar but relevant experience. In-house computing facilities are particularly good.

This is interesting and stimulating work, performed in congenial surroundings, with well-motivated colleagues. The location is Berkshire.

Please contact TONY BAKER on (01) 499 4501 (or write to him at the address below) for further information.

REF RW 5/1

# CONTRACTS

## Level 66 OPS Standards Berkshire/Germany

Join a small team of operations experts compiling and testing Operating Standards. Some travel to Scotland and Germany will be involved.

## Programmer/ Analyst

London

## PDP Basic/ Programmers

London

## Analyst / Programmer

N. London

## Programmers

City

Insurance/Banking Applications. Cobol, BAL, RPG 2 Experience. Starting soon.

Call BRIAN DAWSON on 01-499 4501 for details of these and other contracts available with HUTCHINSON SCOGGINS CONTRACTS LIMITED.

If you are thinking of becoming a Contractor in Operations/Programming/Analysis, HUTCHINSON SCOGGINS CONTRACTS LIMITED will be pleased to assist and advise you. Call 01-499 4501 now.

REF. RW 5/2

**hutchinson-scoggins recruitment**  
47/48 New Bond Street (entrance in Maddox Street)  
London W1Y OHE Telephone 01-499 4501

## OPERATIONS

## SHIFT LEADER OPERATOR

The Northumbrian Water Authority has just accepted delivery of its HONEYWELL Level 60 modems and is seeking a Shift Leader and an Operator, both of whom should be experienced in operating Honeywell hardware. They should also have a good knowledge of GCOS and other Honeywell software, together with a sound working knowledge of the control of Remote and Batch systems and Time Sharing. A 2-Shift system, overtime and rotas work and working all night feature of our working, which attract plus payments on top of competitive salaries, which can be up to £4400 for the Shift Leader, and up to £4000 for the Operator post, depending upon the experience packages offered by the successful candidates.

Applicants should possess valid driving licenses, and the Authority will be prepared to provide financial loans to enable appointees to purchase cars, if required. Consideration will also be given to assistance with relocation costs in appropriate circumstances.

Please write for an application form to:

The Personnel Services Officer,

Northumbrian Water Authority,

Northumbrian House, Raglan Centre,

Gosforth, Newcastle upon Tyne, NE3 3PX.

**Major DME  
developments for  
2900 and a new  
small system**

**Our work in progress could  
mean real career progression  
for you!**

Bracknell, Berks;

Kidsgrove, Staffs

£4,000-£8,500

Wherever you work you will find

## DYNAGRAPHICS FIELD SERVICE ENGINEERS

Due to expansion IMLAC International Limited, a world leader in Computer Graphic Display Systems, are currently looking for experienced Field Service Engineers, to support their existing PDS-4 and PDS-1 Systems and the NEW DYNAGRAPHICS range of Graphics Terminals.

The Engineers will operate from IMLAC's Amersham office, and would be expected to support sites throughout Europe and the UK.

Applicants should have at least 2 years' Field Service experience working on mini computers and peripherals. IMLAC are offering competitive salaries, company car, and an attractive Pension Scheme.

For further information, please call or write to:  
John Stace  
IMLAC International Limited  
IMLAC House, 17 Chesham Road  
AMERSHAM, Bucks.  
Tel. (02403) 22167

## SALES ENGINEER COMPUTER SERVICES

Applicants are invited to fill this new position created as a result of our further expansion. We are looking for someone who has already gained experience in selling in the Computer Services Sector and wishes to join a successful international group whose activities are totally related to selling third party computer hardware maintenance to manufacturers O.E.M.'s and End Users.

The successful applicant will join a small but dedicated team operating from our Head Office in Feltham, Middlesex and must be willing to travel throughout the U.K. and occasionally overseas.

An attractive salary will be negotiated and a contributory Pension Fund is in operation. A Company car will be supplied for your full time use.

Please write giving full details of your career to date marking your application Private and Confidential to:



The European Marketing Manager,  
Systems Maintenance  
and Services Limited,  
P.O. Box 13,  
Unit 11, Centre,  
Great South West Road,  
FELTHAM,  
Middlesex. TW14 8NT.

## PORTSMOUTH POLYTECHNIC Computing Centre

### Senior Computer Operator

Post 774

The Polytechnic computer service is based on a large ICL 2960, using VME/8, and ICL 2904. An extensive communications network is being developed supporting terminals and remote job entry stations.

The Computing Centre seeks to recruit a Senior Operator who has at least three years' operating experience together with an 'A' level standard of education.

Salary up to a maximum of £6,149 including shift allowance, overtime and supplement.

### The Dickinson Robinson Group Limited

## Computer Operator

Required to work a 3-shift system, on IBM 370/148, operating under DOS/VS, power VS, with EPAT, with remote job entry and TP Network.

Applicants must have at least two years' experience. We offer good working conditions, four weeks' annual holiday, contributory pension scheme, subsidised meals and help with relocation expenses where applicable.

Applications in writing to: Mrs. P. C. Hambrook, Personnel Officer, The Dickinson Robinson Group Limited, 1 Redcliffe Street, Bristol BS8 7QY, or telephone Bristol 284284, Ext. 257.



DRG (U.K.) Ltd

## Program yourself into a better job

If you have sound systems design and/or programming experience we have a number of interesting posts in other applications to gain valuable experience within a large and expanding computer installation combined with a variety of varied range of applications.

### 1. SYSTEMS ANALYSTS: up to £5,718

Applicants must have either a minimum of 5 years' relevant computing experience or at least 4 years' experience plus a degree, HNC or equivalent qualification in computer science or other discipline with computing as a main subject. Candidates' experience must include a substantial period in systems analysis.

### 2. PROGRAMMER ANALYST: up to £4,912

Applicants must have either a minimum of 3 years' relevant computing experience or at least 2 years' experience plus a degree, HNC or equivalent qualification in computer science or other discipline with computing as a main subject.

### 3. PROGRAMMER: up to £4,292

Applicants must have at least one year practical programming experience or hold a degree, HNC or equivalent qualification in computer science/mathematics/statistics or other related discipline. Final year students who expect to obtain this type of qualification in summer 1978 may also apply.

Experience of ICL 1900/2900 series computer including PLAN, COROL, OSORGE Operating Systems and Direct Access to mini-computers or the application of dedicated processes in the medical and scientific fields would be an advantage.

Grading and starting salary will be related to age, qualifications and experience.

Write or telephone for an application form and further details quoting job reference 89 82/78/CW to the Civil Service Commission, Rosemark House, Upper Newlands Road, Bristol BS4 3HR (Telephone Dundonald 4688 ext 258). Informed enquiries may be made by telephone to the Director of the Civil Service, telephone Bristol 780761 ext 2708 or Department of Health & Social Services (telephone Bristol 24431 ext 262).

The salary will be subject to review with effect from 1 April, 1978.

Completed forms must be returned to arrive not later than 20 February, 1979.



An opportunity to join a young, energetic and forward thinking team of engineers at the Digital Technology Centre of Plessey Communications & Data Systems Limited, Lenton, Nottingham.

## Mini & Micro Processor Software Engineers

— preferably with a degree or equivalent in Computer Science/Engineering/Maths/Physics. Experience in assembler programming would be an advantage.

There are also some opportunities for

## Fortran Programmers

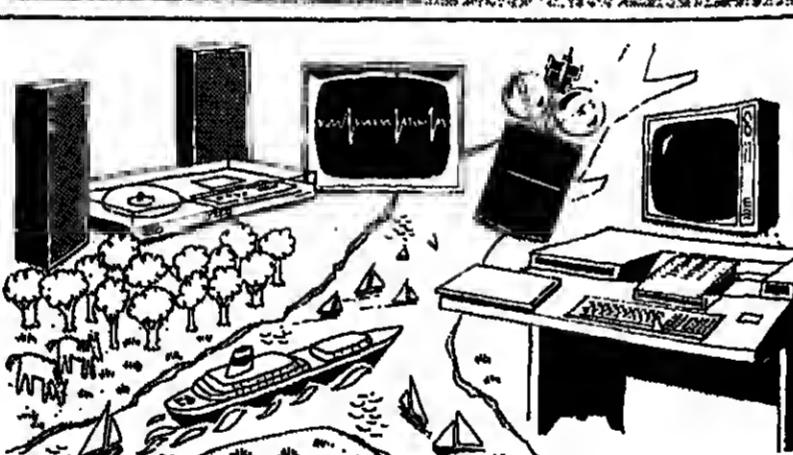
— preferably with a science degree or equivalent. Some knowledge of Data General systems would be useful but not essential.

Competitive salaries will be negotiated on the basis of experience and qualifications. Large company benefits include generous help with relocation expenses.

We're around three miles from the centre of Nottingham — enjoying all the amenities of a big city and attractive countryside. The area offers a wide range of reasonably priced housing — plus first class road/rail links to London and the North.

## Join us now...

Contact Roger Andrews, Software Engineering Manager, on Nottingham (0602) 866522 Ext 201 between 10am - 8pm. Please reverse charges. Alternatively, write to him at Digital Technology Centre, Plessey Communications & Data Systems Limited, Abbeyfield Road, Lenton, Nottingham NG7 2SZ.



## Scientific Computing in Computer Aided Design

### Micro-electronics

Mullard Southampton is a leader in the dynamic world of the silicon chip, we design, develop and manufacture MOS integrated circuits.

One of our key areas is the Computer Aided Design activity which provides support to our electrical development engineers.

We now offer you the opportunity to join us at the forefront of the micro-electronics world — we need someone (male or female) with programming knowledge and experience in a scientific application, preferably Fortran or Algol to join our CAD team. The work is varied — ranging from creating systems programming on a dedicated computer — e 128K word SEL 32/65 compiler with Tektronix graphics.

You will probably have a degree in a relevant scientific subject with an appreciation of electronics and be able to demonstrate to us a practical aptitude in using computers.

Salery will depend on the experience you can offer us and there are excellent fringe benefits, including generous relocation expenses where necessary.

Our Southampton plant is situated on the edge of the New Forest and is close to the Solent with its attractive water sports facilities.

Please write with details of your qualifications, experience and current salary to: John Wells, Personnel Officer, Mullard Southampton, Millbrook Industrial Estate, Southampton SO9 7BH. Or telephone Southampton (0703) 775533.

Mullard  
Southampton

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# Online Opportunities

## Software support

We require more people to join our software support team. If you have sound ICL online experience then this is an ideal opportunity to develop your career with Telecomputing, a growth company and leaders in software for ICL online systems.

### London Programmers

16 months Cobol — Experience of account applications.

### Analyst

Experience of retail accounting systems an advantage.

### Sales support

2 years programming and/or micro support experience assembler or pascal.

### Analyst

With 1-2 yrs. 1900/2900 experience.

### Programmers

Total of 1900/2900 experience.

### Programmers

2900/2902 Cobol. Online experience a distinct advantage.

### Manchester & Oxford Senior Programmers

TOP CLASS Cobol

Programmers to work on a wide range of projects. Experience of online systems would be a distinct advantage.

Excellent salary package.

### Programmers

With at least 12 months ICL Cobol experience to join project teams working on clients applications.

Good starting salary and excellent career prospects.

### Programmers

With at least 12 months ICL Cobol experience to join project teams working on clients applications.

Good starting salary and excellent career prospects.

## Manchester Sales Executive

High basic + commission + car.

Top class Sales Exec. based in Manchester to sell TPS — the leading software product for ICL communications systems, Terminals and project services. Computer and sales experience essential.

## Australia

Still more people required to work in Sydney & Melbourne.

## Programmers

SA 14,000-20,000

We are looking for experienced Cobol Programmers with a minimum of 2 years experience. Online and/or TPS experience a distinct advantage.

## Analysts

SA 14,000-20,000

Applicants with online experience preferably including TPS who have written system specs. for major applications.

If any of these vacancies interest you,

phone Chris Swinbank on Oxford (0865) 723621

Telecomputing People, Seacourt Tower, West Way, Oxford OX2 0ED

Telecomputing People is part of Telecomputing, the company that developed TPS and launched it worldwide. Telecomputing provide advisory, training and implementation services for installing online computer systems around the world. So Telecomputing People have the right contacts and the right credentials. When you get in touch with Telecomputing People you are in contact with people who have their finger on the pulse of the industry.

### Telecomputing People

large to help

Minimum 3 years computer based system development.

### Maidenhead Programmers

IBM Series I assembler or Cobol



**Sales Manager**

South London

A well established terminal manufacturer with an impressive growth record wishes to appoint a Sales Manager to take responsibility for the Southern Region. Candidate must have a successful background both in sales management and in selling terminals, modems or similar equipment. The function currently reports to the M.D. and therefore the opportunity exists to influence the direction of the marketing effort. The base salary is negotiable but total earnings are expected to be well over £15,000 plus large company benefits.

Contact: Jim Baker

**PDP Programmers**

London/Home Counties

c. £8,500-£9,000 + Expenses

This client is a city-based software house which is continuing to attract development projects from a prestigious and growing client base. On joining their team of Consultants, Analyst Programmers with a good knowledge of RSTS/E and BASIC + (and possibly MACRO-II) will have the opportunity to significantly contribute to the growth and expansion of this still small and versatile organisation. Self-motivation and the capacity for hard work and commitment will be extremely well rewarded both financially and in terms of increased responsibility and status.

Basic salaries range from £5,000 to £8,000 according to experience, with bonuses and profit sharing providing around £1,500 pa extra. Each Consultant has the chance to earn a stake in the company.

Contact: Andy Wright

**Consultant Analysts and Programmers**

Surrey/Hants

to £8,000

A progressive and expanding consultancy organisation is seeking to appoint additional competent business analysts and programmers to work on development of technical and commercial systems incorporating software and scientific aspects. Candidates must have spent at least three years in the industry and be able to design and carry out analysis of real-time applications on minicomputers. This is an excellent opportunity for the ambitious technician to work with professionals in a sophisticated environment.

Contact: Margaret Stevens

For further information on any of the above vacancies please contact the appropriate consultant. If your qualifications do not match the above positions but you are seeking other opportunities please contact us anyway.

**JAMES BAKER ASSOCIATES, International Personnel Consultants**  
16 Maddox Street, London W1. Tel: 01-491 4478

## ON-LINE DEVELOPMENT NORTH WEST SALARY £NEG. + CAR

**THE COMPANY:**

A large group of Ford main dealerships with a turnover of £50M+. Comprehensive and successful Accounting and Parts stock control systems are run on an ICL 2904 based at Old Trafford, Manchester. An advanced on-line system for the Parts department will go live in April.

**THE JOB:**

To contribute to all aspects of the design and development of further on-line systems for Service and Sales departments.

**THE CANDIDATE:**

Must have a proven implementation record using ICL hardware and software. Knowledge of TPS, whilst not essential, would be a distinct advantage.

Please reply, in writing, giving details of qualifications, experience and present salary to:

Mr. J. Hands, Group Computer Services Manager  
H. & J. Quick Group Ltd.  
680 Chester Road, Old Trafford, Manchester

**Sales Manager Microcomputer Systems**

c. £8,000 + profit share

If you have proven success in sales, a good knowledge of computer technology, and the business acumen necessary to manage sales growth successfully, this challenging appointment is for you.

As Sales Manager for this well-known and highly regarded distributor you will spearhead UK sales of the world's most advanced microcomputer systems and products - the Zilog range.

Telephone Kevin Smallbone  
Reading (0734) 605866  
PER, Sun Alliance House  
60 Oxford Road, READING RG1 7LU

Applications are welcome from both men and women.

**PER**  
Professional & Executive Recruitment

**Programmers**

West End

A leading overseas banking group require programmers with a minimum of 2 years COBOL experience, ideally gained on IBM 370. The installation handles financial applications including an on-line foreign exchange system. Upgrading of the machine within the next year will enable the successful candidates to engage in creative development work. The bank offers traditional fringe benefits including a very low mortgage scheme after a settling-in period which, together with low interest loans, represents a valuable package. Very pleasant working environment and flexible approach to those who can use initiative and accept responsibility.

Contact: Mike Cremer

**Electronics Technician**

North West/Surrey

c. £5,000

Our client, a well known manufacturer, is expanding its headquarters service facility and therefore has a vacancy for a technician to diagnose and repair equipment and printed circuit boards. Applicants should have an HNC in electronic engineering (or similar) and at least one year's practical experience in a workshop or repair environment.

This is a tremendous opportunity for a young person in progress in the computer industry with an excellent salary and benefits. Contact: Jim Baker

Contact: Andy Wright

**AUSTRALIA**

Computer professionals with more than 3 years' experience who are determined to emigrate to Australia will benefit from our consultancy service. Initially, we advise and provide an assessment of your career prospects in Australia and, later, when your arrival there is imminent, you receive the concentrated services of our Associate company in setting up introductions to suitable vacancy positions in Australia. Since JBA commenced this service we have been extremely successful arranging a selection of possibilities for people arriving there (mainly in Sydney and Melbourne) and the people concerned thereby found ideal employment very quickly.

Contact: Mike Cremer

For further information on any of the above vacancies please contact the appropriate consultant. If your qualifications do not match the above positions but you are seeking other opportunities please contact us anyway.

**JAMES BAKER ASSOCIATES, International Personnel Consultants**  
16 Maddox Street, London W1. Tel: 01-491 4478

**FOCUS ON MILTON KEYNES**

For the best choice of rural or urban living, old or new housing to rent or buy, with excellent social, sports and shopping facilities...

Add to this the exciting job opportunities in the major expansion plans of a 'blue-chip' Bureau/Consultancy organisation... then consider your qualifications!

**Operations Staff** (normal 3 shift working)

- 1. Operators (1 yr. UNIVAC/IBM exp.)
- 2. (Assist. Ops. (6 mths exp.)
- 3. (Trainee Ops. (age 18+ with A Level Maths)
- 4. Exp. Comme Devel: Op. (PDP RSX 11M System)

up to £3950  
up to £3500  
up to £2900  
up to £8500

**Specialist Programmers**

- 1. Exp. Systems Progs. (for OS 1100 Support)
- 2. Exp. Mechanical Eng. Applications
- 3. Eng. App. Progs. (grad. Chem/Mach Eng.)

up to £7250  
£6000-£7000  
£3600-£5000

**Cobol Programmers** (2+ yrs exp.)

2 required (1 to be based in Bristol)

up to £8000

**Service Engineers** (car allowances paid)

- 1. Exp. Field Service DEC/PDP machines
- 2. Comms Eng. (PO/Detel)
- 3. Remote Batch Term. Eng.

up to £8000  
up to £5800  
up to £4500

BENEFITS for all the above positions include luncheon vouchers, 35 hr. week, 4 weeks' holidays, BUPA Contribution, mortgage assistance and negotiable relocation expenses...

**SO ACT NOW** ring Bryan Richmond 0603 867233 in confidence or leave a message at any time.

**EAST ANGLIAN SYSTEMS LIMITED, PO Box 70, Norwich NR1 4EF.**

A personal approach for the better computer job!

Reporting to the Directors your responsibilities will include motivation of the sales force, key accounts development, marketing and pricing policy, and recommending stocking levels.

The total remuneration package could exceed £10,000 p.a. and a company car is provided.

If you have proven success in sales, a good knowledge of computer technology, and the business acumen necessary to manage sales growth successfully, this challenging appointment is for you.

As Sales Manager for this well-known and highly regarded distributor you will spearhead UK sales of the world's most advanced microcomputer systems and products - the Zilog range.

Telephone Kevin Smallbone  
Reading (0734) 605866  
PER, Sun Alliance House  
60 Oxford Road, READING RG1 7LU

Applications are welcome from both men and women.

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Professional & Executive Recruitment

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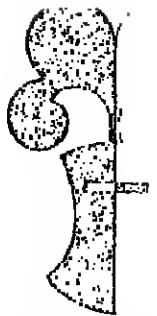
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Telephone Kevin Smallbone





# KNIGHT PROGRAMMING SUPPORT LIMITED

## INTERVIEWERS

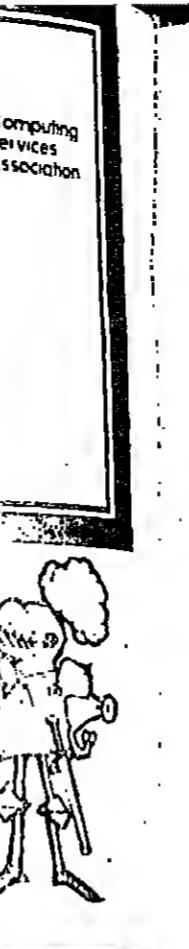
£10,000+ per annum

If you have experience in the computer services industry and can demonstrate success at sales and in dealing with people you should answer this advertisement.

KPSL is one of the fastest growing companies in DP and believes in rewarding good people well. Earnings in excess of £10,000 p.a. are obtainable.

Give David Shepherd a ring on 01-734 0152 and discuss the opportunities which are available in our London and Birmingham Office.

ROYALTY HOUSE, 72 DEAN STREET, LONDON W.1  
01-734 0152/6 (24 hours)



# CUSTOMER ENGINEERS & SENIOR CUSTOMER ENGINEERS

£5,000 to £8,000 + Car

Versatec, part of the Xerox Group, is a Californian based company supplying high technology electrostatic computer peripherals for scientific and commercial applications. Continued success requires further expansion of our Engineering Department, we are, therefore, looking for engineers to complement our existing team.

Initially, training will be in the UK but applicants should be prepared to travel in Europe and to our manufacturing facility if required. The jobs, which involve both the installation and maintenance of modern electrostatic graphic sub-systems in the South West and South East, are both challenging and rewarding.

Applicants (male or female) should be self-motivated, and capable of working from home or a local office with the minimum of supervision.

Salaries are above average. Company cars are provided, and an incentive scheme and BUPA membership are amongst the benefits offered. Assistance with relocation will be provided if necessary.

Contact David Coddard for more details.

**VERSATEC**  
A XEROX COMPANY

Versatec, 27/35 London Road, Newbury, Berkshire. Telephone: Newbury (0635) 42421.

# CHIEF PROGRAMMER IBM INSTALLATION SOUTH EAST LONDON to £8253

You will be responsible for maintaining standards for all programming and therefore need to be conversant with COBOL and ASSEMBLER languages. New Projects scheduled include On-Line Financial and Property Information Systems. A sound knowledge of systems programming including CICS/DOS/VIS is therefore essential and to be able to lead a team of systems programmers.

Come and join a progressive organization based in London premises at Catford, consisting of some 80 development and operations staff utilizing IBM 370/138 supported by distributed Olivetti, Plessey and Radionics Processors. We offer good career prospects, a competitive starting salary, option flexi-time, in excess of 4 weeks' leave and a thoroughly professional DP environment. Good public transport facilities and free car parking available.

For further details ring our Systems Manager, Mrs. L. Harris on 01-690 4343 Ext. 88 or send full personal and career details to her at Lewisham Town Hall, Catford SE20 4RU.

**LONDON BOROUGH  
OF LEWISHAM**

## M.I.S. MANAGER

£9,000  
negotiable

Our client is one of the most successful and rapidly expanding manufacturers of jeans in the United Kingdom.

At their Head Office in South Essex they are currently installing a large IBM System 34 with purpose written on-line applications for sales order processing, manufacturing, accounting and stock control.

The company wish to appoint a Management Information Systems Manager who will be responsible to the Financial Director for the implementation of the proposed system and the further development of Management Information activities. This is a challenging opportunity in a very successful company not only to create a data processing department but also to take a wider role in the company's future affairs.

Applicants, in the age range 30-36, should be graduates or have an equivalent professional qualification. Experience with IBM System 3 or 34 is desirable but of equal importance is proven management ability in medium sized installations, enthusiasm and initiative. Some knowledge of business practices in the consumer durables industry would be an advantage, as would experience in the design of integrated systems.

Salary will be negotiable around £9,000 per year together with the usual range of other benefits.

For an application form men and women are invited to write or telephone in confidence to Geoffrey Laycock, quoting reference 596/CW at the address below (telephone 01-229 6742).

**Urwick Dynamics Limited**  
Computer and Selection Consultants  
3 Monmouth Road  
London W2 4UT

## Systems Management

- For an established group producing an extensive range of electronic components, employing 2000 people in the UK and eager to maintain its enviable growth record.
- With responsibility for controlling the development and implementation of on-line computerised facilities in three major companies in the UK — to be linked in due course to a network.
- Requiring an individual, ideally 28-35, who combines good, all-round on-line systems experience — ideally in a manufacturing environment, with business acumen and a profit-orientated approach.

Remuneration will be up to £8,500 plus car. Removal expenses to Crawley, West Sussex will be provided in appropriate circumstances.

Please write in confidence, quoting Ref. T897/CW giving concise personal, career and salary details to R. G. Billen.

**AMS**

Arthur Young Management Services  
Rolle House, 7 Rolle Buildings  
Fetter Lane, London EC4A 1NL

Science Research Council  
Royal Greenwich Observatory

## SCIENTIFIC OFFICER / PROGRAMMER

Applications are invited for a Scientific Officer post in the Computer Department of the Royal Greenwich Observatory, which is situated in the countryside at Herstmonceux, close to the South Coast. The Department is responsible for the central computer services which support astronomical research, the design and construction of observing facilities, and the provision of astronomical data for general use. The post involves joint responsibility for programme development and in the development of new software for astronomical use and applications in astronomy, engineering and information processing. Present, the computers used include an ICL 19031 system with multiple-access and batch facilities, an Intertel minicomputer in interactive graphics, and a DEC 2040 terminal link to the dual IBM 380/195 system at the Mullard Laboratory of the Science Research Council. Fortran is the most widely used language. The local computer also has a PDP 11, so the appointee will be able to start planning and developing at new facilities. There are opportunities for collaboration with astronomers and engineers in other departments as well as variety of projects.

Applicants should have recently obtained or be about to obtain a degree, or similar qualification, and have a good general knowledge of computer science. A basic knowledge of physical science and/or numerical analysis would be an advantage. Experience is not essential since in-service training will be provided.

The salary scales, career prospects, and employment conditions are aligned with those of the Scientific Civil Service. The starting salary will depend on qualifications and experience and will be in the range £2,638 - £2,700; the scale carries annual increments to £4,416, but good performance is likely to be rewarded by earlier promotion to Higher Scientific Officer (£4,107-£5,466). Higher Scientific Officer status is subject to a probation period of 12 months. There is a retirement pension scheme. The Observatory has good facilities for sports and social activities. Application forms and further information can be obtained from Mr. N. Jones, Royal Greenwich Observatory, Herstmonceux Castle, Herstmonceux, East Sussex BN27 1RP, telephone Herstmonceux 3171, and should be returned not later than 28th February 1978.

**GMS** GMS COMPUTING LIMITED SHEFFIELD  
SYSTEMS PROGRAMMER

Salary negotiable

GMS, a leading IBM Bureau, is a rapidly growing member of

JOHNSON & FIRTH BROWN GROUP

The Group consists of a number of specialist engineering companies with a total turnover of £22 million per annum, employing 3,000 workforce.

Equipment installed includes an IBM 370/138, 3340/440, 000/178, 000/179, 000/180, 000/181, 000/182, 000/183, 000/184, 000/185, 000/186, 000/187, 000/188, 000/189, 000/190, 000/191, 000/192, 000/193, 000/194, 000/195, 000/196, 000/197, 000/198, 000/199, 000/200, 000/201, 000/202, 000/203, 000/204, 000/205, 000/206, 000/207, 000/208, 000/209, 000/210, 000/211, 000/212, 000/213, 000/214, 000/215, 000/216, 000/217, 000/218, 000/219, 000/220, 000/221, 000/222, 000/223, 000/224, 000/225, 000/226, 000/227, 000/228, 000/229, 000/230, 000/231, 000/232, 000/233, 000/234, 000/235, 000/236, 000/237, 000/238, 000/239, 000/240, 000/241, 000/242, 000/243, 000/244, 000/245, 000/246, 000/247, 000/248, 000/249, 000/250, 000/251, 000/252, 000/253, 000/254, 000/255, 000/256, 000/257, 000/258, 000/259, 000/260, 000/261, 000/262, 000/263, 000/264, 000/265, 000/266, 000/267, 000/268, 000/269, 000/270, 000/271, 000/272, 000/273, 000/274, 000/275, 000/276, 000/277, 000/278, 000/279, 000/280, 000/281, 000/282, 000/283, 000/284, 000/285, 000/286, 000/287, 000/288, 000/289, 000/290, 000/291, 000/292, 000/293, 000/294, 000/295, 000/296, 000/297, 000/298, 000/299, 000/300, 000/301, 000/302, 000/303, 000/304, 000/305, 000/306, 000/307, 000/308, 000/309, 000/310, 000/311, 000/312, 000/313, 000/314, 000/315, 000/316, 000/317, 000/318, 000/319, 000/320, 000/321, 000/322, 000/323, 000/324, 000/325, 000/326, 000/327, 000/328, 000/329, 000/330, 000/331, 000/332, 000/333, 000/334, 000/335, 000/336, 000/337, 000/338, 000/339, 000/340, 000/341, 000/342, 000/343, 000/344, 000/345, 000/346, 000/347, 000/348, 000/349, 000/350, 000/351, 000/352, 000/353, 000/354, 000/355, 000/356, 000/357, 000/358, 000/359, 000/360, 000/361, 000/362, 000/363, 000/364, 000/365, 000/366, 000/367, 000/368, 000/369, 000/370, 000/371, 000/372, 000/373, 000/374, 000/375, 000/376, 000/377, 000/378, 000/379, 000/380, 000/381, 000/382, 000/383, 000/384, 000/385, 000/386, 000/387, 000/388, 000/389, 000/390, 000/391, 000/392, 000/393, 000/394, 000/395, 000/396, 000/397, 000/398, 000/399, 000/400, 000/401, 000/402, 000/403, 000/404, 000/405, 000/406, 000/407, 000/408, 000/409, 000/410, 000/411, 000/412, 000/413, 000/414, 000/415, 000/416, 000/417, 000/418, 000/419, 000/420, 000/421, 000/422, 000/423, 000/424, 000/425, 000/426, 000/427, 000/428, 000/429, 000/430, 000/431, 000/432, 000/433, 000/434, 000/435, 000/436, 000/437, 000/438, 000/439, 000/440, 000/441, 000/442, 000/443, 000/444, 000/445, 000/446, 000/447, 000/448, 000/449, 000/450, 000/451, 000/452, 000/453, 000/454, 000/455, 000/456, 000/457, 000/458, 000/459, 000/460, 000/461, 000/462, 000/463, 000/464, 000/465, 000/466, 000/467, 000/468, 000/469, 000/470, 000/471, 000/472, 000/473, 000/474, 000/475, 000/476, 000/477, 000/478, 000/479, 000/480, 000/481, 000/482, 000/483, 000/484, 000/485, 000/486, 000/487, 000/488, 000/489, 000/490, 000/491, 000/492, 000/493, 000/494, 000/495, 000/496, 000/497, 000/498, 000/499, 000/500, 000/501, 000/502, 000/503, 000/504, 000/505, 000/506, 000/507, 000/508, 000/509, 000/510, 000/511, 000/512, 000/513, 000/514, 000/515, 000/516, 000/517, 000/518, 000/519, 000/520, 000/521, 000/522, 000/523, 000/524, 000/525, 000/526, 000/527, 000/528, 000/529, 000/530, 000/531, 000/532, 000/533, 000/534, 000/535, 000/536, 000/537, 000/538, 000/539, 000/540, 000/541, 000/542, 000/543, 000/544, 000/545, 000/546, 000/547, 000/548, 000/549, 000/550, 000/551, 000/552, 000/553, 000/554, 000/555, 000/556, 000/557, 000/558, 000/559, 000/560, 000/561, 000/562, 000/563, 000/564, 000/565, 000/566, 000/567, 000/568, 000/569, 000/570, 000/571, 000/572, 000/573, 000/574, 000/575, 000/576, 000/577, 000/578, 000/579, 000/580, 000/581, 000/582, 000/583, 000/584, 000/585, 000/586, 000/587, 000/588, 000/589, 000/590, 000/591, 000/592, 000/593, 000/594, 000/595, 000/596, 000/597, 000/598, 000/599, 000/600, 000/601, 000/602, 000/603, 000/604, 000/605, 000/606, 000/607, 000/608, 000/609, 000/610, 000/611, 000/612, 000/613, 000/614, 000/615, 000/616, 000/617, 000/618, 000/619, 000/620, 000/621, 000/622, 000/623, 000/624, 000/625, 000/626, 000/627, 000/628, 000/629, 000/630, 000/631, 000/632, 000/633, 000/634, 000/635, 000/636, 000/637, 000/638, 000/639, 000/640, 000/641, 000/642, 000/643, 000/644, 000/645, 000/646, 000/647, 000/648, 000/649, 000/650, 000/651, 000/652, 000/653, 000/654, 000/655, 000/656, 000/657, 000/658, 000/659, 000/6

# Shift Leader

c. £4,100 p.a. Blackpool

A recent promotion within the Computer Department, has led to a vacancy for a Shift Leader at Telefusion, the leading T.V. rental and electrical retailing Group.

Our installation comprises an I.C.L. 1900 (soon to be upgraded to 2900) running under George 3, T.I. minicomputer and an extensive telecommunications network.

Based at the Company's Head Office in Blackpool, and reporting to the Operations Manager, the person appointed should have at least two years experience with the George 3 operating system, and currently be working as a shift leader or senior operator. The salary is made up of a good basic plus shift allowances and there are the usual large Company benefits and promotional opportunities.

Male or female applicants should write, giving brief details of age and experience to:

Mr. J.M. Rollason  
Assistant Personnel Manager  
Telefusion Limited  
Telefusion House  
Preston New Road  
Blackpool

## TELEFUSION



### Anglian Water Authority

#### PROGRAMME ANALYST

Post No. R3R30  
Grade 4 (£3867-£4164 plus £312 p.a. supplement)

Applications are invited for the above post in the Resource Planning Section of the Division's Engineers Department at Boston. The successful applicant will be responsible to the Principal Engineer (Hydrology) for writing computer programmes in connection with Hydrological Studies, Resource planning, land drainage design and groundwater analysis models. A knowledge of statistics is essential. Applicants should have a degree in computer sciences or equivalent with relevant experience and should be able to liaise with other staff of different disciplines.

The Division is responsible for all aspects of river management over an area of 520,000 hectares between the Humber and the Wash involving land drainage, flood alleviation, sea defences and water resources planning, development and control. Boston is a market town with lower than average housing costs and is situated within easy reach of the east coast and the large cities of the east Midlands. A wide range of social, recreational and cultural amenities is available locally.

N.J.C. for Water Services Staffs conditions of service apply and relocation expenses are payable in appropriate cases.

Application forms, which are returnable by 18th February, 1978, are available from the Divisional Manager:

George Ogden  
Divisional Manager  
LINCOLNSHIRE RIVER DIVISION  
50 Wido Bargate, Boston, Lincs. PE21 6SA

## CALCOMP

### Sales Executives

Computer Peripherals and Data Logging Systems

Home based c.£5000 basic + commission (no limit) + car.

Are you a young ambitious salesman with a good proven sales record plus a background in data processing and electronics? Then this could be your next step up.

Cristie Electronics Ltd., an established young expanding company, have recently launched two new microcomputer based products—an intelligent cassette terminal and a portable datalogger. Two self-motivated salesmen are needed to sell these products throughout the UK. Promotion prospects are wide open to Director level!

If you know you have the dynamism and background to meet the challenge,

Telephone: John Scott Gloucester (0452) 35525  
PER Grosvenor House  
Station Road, Gloucester GL1 1TA

Cristie

Applications from both men and women are welcome.

Ref. RN572

### ICL 2970 SOFTWARE TEAM

A 3M type ICL 2970 is installed at the Authority's new computer centre in Central Bradford. It serves a large and growing communications network, providing services to Head Office and eight divisions of the Authority via remote batch, batch, MAC and TIP facilities.

The software team, which is responsible for the development and maintenance of the system software especially including the VME/B operating system, is being expanded and applications are invited from men and women for the following new posts in the already established team:

#### SENIOR SYSTEMS PROGRAMMER — Ref. RN573

£4336-£4672 p.a.

For this post, which ranks second in the software team to the Chief Systems Programmer, considerable practical experience of system solvers including a major operating system (VME/B would be an advantage) is required.

#### PROGRAMMER — Ref. RN572

£4336-£4672 p.a.

A basic level of programming experience is required and some consideration will be given to applicants who would be an advantage to move into the systems programme field.

Relocation expenses and disturbance allowances are payable in approved cases. Appropriate 2800 training will be provided.

Application forms are available from the Regional Personnel Department, Yorkshire Water Authority, West Riding House, Abbey Street, Leeds (Tel. Leeds 443201 Ext. 269), to whom they should be returned by 12th February, 1978 quoting the appropriate reference number.

## Yorkshire Water

### SOFTWARE SUPPORT ANALYST/PROGRAMMER

CalComp is acknowledged as the world's leader in computer graphics — one of the most rapidly developing areas of the computer industry.

We already offer the widest range of graphics products available from any one manufacturer and, with our constant product development programme, we now urgently need an additional, experienced Software Support Analyst/Programmer.

#### THE JOB

Based in our modern offices in Bracknell but covering the whole of the UK, the job involves advising CalComp graphic systems users on the wide range of software available and assisting with the on-site installation of software.

It also involves taking an active part in the marketing of our software and, particularly, in the organisation of benchmarks, etc.

#### THE PERSON

The person we are looking for will be aged around 24-34 with at least 2-3 years experience of FORTRAN and an Assembler language.

He (or she) should have a basic knowledge of the computer industry and be used to working in a competitive commercial environment. An understanding of CAO and/or computer graphics will be a distinct advantage.

#### THE REWARDS

The rewards will be attractive for the right person, with a good basic salary, bonus, a full range of fringe benefits including BUPA and a company car.

To apply, please write to, or ring:

Don Crowle, CalComp Limited, Cory House, The Ring, Bracknell, Berkshire.

Tel: (0344) 50211

THE OPEN UNIVERSITY  
DATA PROCESSING DIVISION

### STATISTICAL PROGRAMMER

Starting salary up to £5,600

The Statistics Team in the University's Data Processing Division is to be strengthened by the appointment of an additional programmer to undertake support which will include user analysis and direct user contact. This team is responsible for the development of on-line systems providing statistical analysis of administrative data, as well as providing the computing undertaken by the Institute of Educational Technology.

Programs are written in COBOL, some use is made of FORTRAN and FORTRAN is used for the more sophisticated statistical software packages.

The person we are seeking will ideally have two or more years COBOL and/or FORTRAN experience but a less experienced applicant with suitable potential would be acceptable. Basic ongoing work of the team will extend their range of experience. Exposure to statistical methodology is not essential.

Application forms and further particulars are available, by post and request, please, from: The Recruitment Officer (JD3745/1), The Open University, P.O. Box 75, Walton Hall, Milton Keynes, MK7 8AL, or telephone 01908 633688.

Closing date: 1st February, 1978.

# MYRIAD

## TECHNICAL SUPPORT MANAGER

TO £9000 + CAR

### MIDDLESEX

Our client is currently developing several systems involving T.P. and Audio Response software to run on a network of OEC minicomputers in association with an IBM 370/138 running under DOS/VS.

The successful applicant will lead a small team of systems and software programmers and will be responsible for the efficient use of hardware.

Currently several major systems are running on the IBM 370/138 and while the new on-line real-time applications are being developed these systems require on-going enhancement and review.

The development of new systems is well underway and will require the technical support to gain an in-depth understanding of DEC real-time communications software.

This is an excellent opportunity for a Senior Technical Specialist to move into a management role, whilst at the same time maintaining a high degree of involvement in software and systems. Ideally applicants will have a degree level education supported by a minimum of five years' systems and software experience involving either IBM or DEC hardware. Supervisory or Project Management responsibility would be of interest although a strong technical background, particularly involving OOS/VS, is of prime importance.

The company have recently agreed a development program together with a complete restructuring within the Management Services division. This has resulted in the creation of a Technical Support Management role and the setting up of a support team. The new Manager will be expected to establish the department and assess training and support requirements as well as leading the software design team on the development of several real-time applications.

The Company have their Data Centre at Brootford and offer an attractive salary package together with excellent conditions of employment. Those include flexible working, a 3% contributory pension scheme, subsidised canteen and an active sports and social club. Assistance with relocation expenses will be paid. Ref. E1/102

### MYRIAD APPOINTMENTS LIMITED

30 Fleet Street London EC4Y 1AA  
01-353 0981 24 HRS.

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ALL AREAS  
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The best CHOICE of  
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Plessey Computer Centre

## TP Software Programmers

Addlestone, Surrey

c. £5,500

#### FREELANCE ANALYSTS & PROGRAMMERS

Urgently required for projects in London and S. East. Register now for immediate and future assignments.

Drop us a line in '79

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# Programmers

Uxbridge

to £7,500

Are you interested in the challenge of working in a software house environment, coupled with the security of a major British Group? Our company—a division of the Grand Metropolitan Organisation—acts not only for group companies but also extends clients in a commercial software capacity, taking projects from initial study through to implementation. An increase in the number of development projects has meant that there are now vacancies for experienced Programmers who have been, or wish to be, trained in: COBOL, PL/I, BUSINESS BASIC. We develop mainframe projects on the group's IBM 3031, ITL 455 and ICL computers, and currently use Data

## Grand Metropolitan Systems Limited

THE LOGICAL CHOICE

BOCM Silcock, one of Europe's leaders in animal health and part of the international Unilever Group, has a vacancy for a

### Systems Programmer

at our head office in Basingstoke.

A PDP 11/34 using ADAM software has been installed for a key application covering the control of raw material purchases and associated accounting procedures, including a payroll and management reports. This application, which is under development, will become a vital part of the Company's computer system and will have important links with other systems. The successful applicant will initially assist in the development and implementation of the system and subsequently will be responsible for the ongoing computer operations including the software application programs which are written in PL/I and system optimisation. Further career progression could be through our computer development team or transfer to an associated Unilever company.

Applicants should have sufficient knowledge and experience to demonstrate their ability to satisfy this important contribution to the success of this crucial area of our operations. Our modern, friendly office is located close to bus and railway stations and conditions of employment include four weeks' annual holiday, flexible working hours, pension and sick pay schemes and a subsidised restaurant.

For further details please write to or telephone:

**BOCM SILCOCK**

Mrs. S. M. Brinsley  
BOCM SILCOCK LTD.  
Basingstoke, Basingstoke  
Tel: 29211



**Full-time Programmer to join International medical research group**

The European Dialysis and Transplant Association requires a Programmer with experience in FORTRAN and ALGOL to work in its international centre at St. Thomas Hospital, Brixton. An in-house DEC PDP 11/34 and a small Western Union computer network are available in the range of £4,421 to £5,728 depending on age and experience. Superannuation as for an NHS appointment.

Applications to Dr. N. H. Silcock, U.K. Transplant Centre, Regional Transplant Unit, St. Thomas Hospital, Bristol, BS10 8HO (Tel: 0272 807777) from whom a full job description is available.

**UNIVERSITY OF Salford PROGRAMMER £2823-£4632**

ICI 2803, 32K, £80 000  
We require a Cobol Programmer to join a small team of analysts and programmers working on the development, implementation and maintenance of commercial-type applications including financial accounting, job costing, management reporting, personnel and student records, and on-line file inquiries and updates.

Starting salary according to qualifications and experience

Letters of application stating age, experience, qualifications and present salary should be sent to: Mr. G. J. Williams, University of Salford M5 4WT, by 9th February, 1979, quoting reference A/817/QV

## Do you want more CACHE or is it in the PIPELINE?

ITEL is one of the world's largest suppliers of IBM-compatible mainframes, marketing a wide range of products throughout the world.

We need someone to help evaluate the hardware features used in large scale computer systems, and to assist in the development of marketing strategies for our range of IBM-compatible CPU's.

You would also be involved in training our expanding sales and support force, and in developing a range of presentation material.

There will, of course, be opportunities for international travel, but the majority of your time would be spent at our European Headquarters in London.

This post will command a five figure salary. In addition to a comprehensive package of non-contributory benefits.

If you have creative flair, coupled with a sound knowledge of IBM hardware and architecture and are interested in this challenging opportunity, contact:

Mr. Phil Stapleton, ITEL International (Europe) Corporation, Bowater House, 68 Knightsbridge, London SW1X 7LN. Telephone: (01) 584-5050.

**ITEL**  
INTERNATIONAL

## OVERSEAS DEVELOPMENT

KNOW-HOW vital to developing countries

### Data Processing Adviser

Ethiopia

required to strengthen statistical and data processing capacity within the Central Statistics Office. Applicants should be over 25 and have extensive experience in statistical applications preferably using IBM System 3.

Appointment 2 years. Salary according to age and experience plus tax-free overseas allowance in range £1990-£4965 p.a. (Ref. 328X).

The post is wholly financed by the British Government under Britain's programme of aid to the developing countries. In addition to basic salary and overseas allowances other benefits normally include paid leave, free family passages, children's education allowances and holiday visits, free accommodation and medical attention. Applicants should be citizens of the United Kingdom.

For full details and application form please apply, quoting reference stating post concerned, and giving details of age, qualifications and experience, to:

Appointments Officer,  
MINISTRY OF OVERSEAS DEVELOPMENT,  
Room 301, Eland House,  
Stag Place, London SW1 5DT

HELPING NATIONS HELP THEMSELVES

## Computer Operator

### Salary of around c. £4600 p.a.

Mobil Data Services provides computing services to Mobil Affiliates in the UK, Scandinavia and Benelux, and seeks a Computer Operator who has a minimum of 18 months' experience on IBM 36D/37D equipment. The successful man or woman will be required to operate an IBM 370/158 under OS/VS1 with RJE links to UK and Benelux users. This equipment is to be upgraded to an IBM 3031 in early 1979 along with plans to increase the number of RJE and RJE links. Opportunities for advancement are excellent.

Salary, inclusive of shift allowance (5-day, 3-shift) and 40-hour allowance will be c. £4600 p.a. dependent on age and experience. Other benefits include pension and life assurance schemes, 4 weeks' annual holiday, subsidised canteen and sports and social club.

Please write or telephone for an application form to:  
Frank Ward, Employee Relations  
MOBIL DATA SERVICES LTD.  
Becket House, Vosley Road, Salford, Lancashire, M3 4WT  
Tel: Salford 55288, ext. 137

**Mobil**

## SYSTEMS MANAGER

c £7,500

We are a medium-sized electronics manufacturing company in the north of England operating a batch processing computer system for manufacturing control and DP services to the rest of the company.

A new and more powerful real time system has been ordered to replace the installation. We need a Systems Manager to take control of the design function, to implement the changeover to real time operations and to develop new systems and procedures, both manual and computerised, throughout the company.

You should be familiar with the implementation and development of manufac- turing control systems, and you should have a thorough, logical approach to the investigation and improvement of existing systems.

Ideally, your age should be 26-36, and your background is in manufacturing or programming in order to monitor and control this function effectively.

The salary will reflect the importance of this appointment and there are generous relocation allowances.

If you are interested, whether male or female, and feel that you meet the requirements, write to us with details of your career to date, at Box 1004, Computer Weekly.

## PROGRAMMER R.P.G.11

### BIRMINGHAM

To £5,000+

This major IBM Systems 3 installation requires a competent RPG 11 Programmer. Experience of TP systems would be an advantage but is not essential.

An exciting range of projects involves On-Line and Batch systems for a number of users within the Group throughout the U.K.

An excellent salary and fringe benefits are offered to candidates having appropriate experience.

Job Ref. 4/173

GP House, 155 Hamstead Road, Handsworth, Birmingham B20 2RL  
Telephone: 021-523 4520 (24 Hours) or 021-551 2357

Phone or write (no stamp required) to:  
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**HS**

## COMPUTER PROGRAMMER R.P.G. II

We require a programmer with two years' experience to implement the I.P.I.C. Production Control package and to maintain existing systems on an I.B.M. System 3 model 12. The successful applicant will also be expected to take an active part in the day-to-day running of the E.O.P. department. Experience in a manufacturing environment would be an advantage.

A part-time appointment could be considered for a suitably qualified applicant.

Starting salary will depend on qualifications and experience but will not be less than £4000 per annum for full-time employment.

The Company is expanding and offers excellent prospects; good benefits include, free life insurance, four weeks' holiday and relocation expenses.

Write with full details or if you require further information phone:

**Amphenol Limited**  
Thonet Way, Whitstable, Kent  
Tel: 0227 264411

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**BUNKER RAMO**

## 1 year's Fortran?

Looking for hands-on mini experience in an exciting environment?

We are starting new projects in the fields of process monitoring and control using mini-computers and require young programmers, male or female, with potential and ambition who wish to gain valuable experience in real-time computing.

If this appeals—irrespective of your previous experience—DON'T HESITATE!

Ring Kevan Perrins now on 01-953 2030

Apply for an initial London interview, giving a UK phone number, with full details of recent relevant experience to:

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A GEC Marconi Company

## Production Controller

From: £3,500 p.a.

Hill Samuel Life Assurance is part of the international Hill Samuel Group. The Company's distinctive head office building is adjacent to East Croydon Station (Victoria) — 16 minutes.

The Company operates varied and extensive computer systems using an IBM 370/168 operating under OS/VS1 and running on a DATA 100 RJE terminal and an on-line VDU work station. The post advertised will necessitate operating both sets of terminal equipment.

A **PRODUCTION CONTROLLER** who will be a key member of a team handling a variety of user systems. A minimum of 18 months' experience operating under OS/VS1 and ALGOL, and 1600 word processing knowledge is desirable, but training will be given to candidates displaying the right kind of enthusiasm. This is an ideal position for a candidate who would like to become a JCL expert and there is the opportunity to go into programming.

In addition to the salary offered, the Company offers Lunchtime Vouchers, Non-Contributory Pension, free BUPA membership and Life Assurance, Season Ticket and Staff Loan facilities, Sports Club with heated swimming pool.

Production Control operates staggered working hours evening 08.00 hours to 18.00 hours.

Applicants should write or call to:

**CAVIN HIRD**

Production Services Department,

Hill Samuel Life Assurance Ltd., 11A Tower,

12-16 Athelstan Road, CROYDON, CR9 2DR.

Tel. No.: 01-699-0365. Ext. 126.

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## THE LOGICAL MARKETING BIT

### FORECASTING—1

As simple or as complicated as you care to make it

Sales forecasting within the computer industry varies in its application from being an exact science to "one of those marketing things we ought to try some time".

Sales forecasting can

really be simple or as

complicated as you care to make it. There are lots of methods one can utilise. Simple extrapolation, extrapolation plus weighting, trend analysis, regression analysis, correlation analysis with or without time- liders, and so on.

However, the effective

application of most of these

techniques is a function of

a company's

intimate knowl-

edge of the market place in

the context of every force

which has an influence

upon it; and in an industry

where market research is in

general not much of a

science, few companies have

the resources to be truly

sophisticated.

The basic dilemma of

forecasting is that the

principal factors involved

create an opposing force in

terms of both the scope and

limitations they imply.

These factors pre-

dominantly consist of pro-

duction and stock capacity,

financial latitude, man-

power availability, re-

source and marketing capa-

bility. What, for instance, will be the predominant effect of manpower upon the sales

forecast in the first place?

One simply chooses a number

and assumes that the re-

quired number of sales-

men, engineers, sys-

tems analysts, etc. will

be available, or does one

give more heed to the con-

straints of personnel

availability and one's

revenue horizons accor-

</div

# PERMANENT JOBS

Chief Operator PDP/IBM	Leeds c £4500	B2858	Shift Leader GII/DME	Middx. £8000	L2841
Senior Operator System 3	N. Lndn. c £4800	B2879	Senior Operator GII/DME	Middx. £5000	MM2840
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# ASCII through the Logic Gate

An epic in 32K words, by Richard Forsyth

## Block 26 (En Bloc)

*Hex has been challenged by the DPM to play against the special-purpose chess machine Checkmate (Chess Heuristic Evaluation Computer Knowing Midgame And The Endgame), with his life as stake. He has decided to take part without a second. As a result the DPM has ordered him back to the cells.*

On the way down to the dungeon Hex thought about chess. In his youth he had been a keen player, but he had hardly seen a chessboard for over a decade. Still, he reckoned he could give any machine a good run for its money.

Even so, he didn't regret passing up the contest. It was sure to have been rigged.

The gate clanged open and he was hurled in. He could see nothing in the darkness. Then he heard the jingle of McNull's electronic trinkets.

"Art thou hurt?"

"I'm all right."

"That is a blessing."

"Listen. Are you any good at chess?"

"It is. The reason I was taken up to the DPM's exalted presence was to play a game of chess."

"Passing strange are the ways of the System," McNull intoned, "and its doings are beyond understanding of mortal man." The shock of captivity had reactivated his brain impediment.

"They promised me freedom if I won; but I refused to play."

Before McNull could comment, the gate was once again flung open. The bright light assailed their eyes. "This way," burked one of the warriers.

This time they were both herded up to the DPM's office. Inside, Hex saw, the Checkmate automaton was still in the centre of the floor.

"I have relented..." began the DPM.

"A miracle!" burst out McNull. "Mine own ears have heard it. Abohann, call Synapse is back from the grave."

"Shut him up," commanded the DPM, "or you will be sent straight back where you came from."

"Shhh," said Hex to McNull.

"In my infinite wisdom," continued the voice of the System, "I have acceded to your demand for a second,

unreasonable though it was. I have decided to interpret the rules leniently, in the interests of the game as a whole. As for an unbiased umpire, the question does not arise, since I am of course perfectly impartial."

"Oh yes," snorted Hex.

"My decisions will be final and binding. There can be no appeal. Now, let the game commence."

"Not so fast," said Hex. "First of all, you cannot act as second to Checkmate if you are referee, so he needs another helper; secondly, this room is too big and bare. The match must be adjourned to a more suitable venue. Besides, I cannot play without a comfortable chair."

"You will play here; you will play now; and you will play standing. Otherwise the game is off."

Some tone in that synthesized speech told Hex that this was no bluff.

"I wish to register a protest," he snarled weakly. "This match is not being conducted according to FIDE championship regulations."

The DPM ignored him. "You have first move."

"How do I make a move?" Hex asked.

"Vocal input - just tell it your choice and the display will be updated to reflect the revised board positions. Once you have spoken, a move cannot be rescinded. You must make it moves per hour."

Hex thought for a moment, then coughed to clear his throat. Clearly and distinctly he enunciated "Pawn to King's pawn four".

"Input acknowledged," came the reply, sounding surprisingly thin considering how well they had recited Dr McNull's voice. The white pawn flushed, then reappeared in its new square.

Hex waited the machine's response. It seemed to take an inordinately long time. He wondered if the same timing restriction applied to it as to him. Presumably that would be enforced by the DPM's discretion.

After all the preliminary skirmishes, the game itself turned out to be something of an anticlimax.

White

(The Hexadecimal King)

I, P-K4

Black

(Checkmate King)

Resigns

Hex and McNull leapt up and down, whooping with joy and disbelief. The tension released itself in an impromptu jig around the chess trolley. One down, half to go, all he needed now was a draw.

The DPM could scarcely conceal his frustration. "As you can see," he remarked sourly, "it has made a very deep analysis of the game."

Hex was cock-a-hoop. "It looked too far afield," he declared. "So much for theory!"

"Don't be overconfident," warned the DPM. "This machine has the most powerful collection of tree-pruning routines known. You have not won the series yet."

"Come on then," said Hex. "Let's get stuck in."

The next game was much eventful. It all proceeded much according to the book for the first 12 moves. The machine opened with P-KP4, indicating that it took its previous evaluation seriously, and Hex put up a variant of the Sicilian defence. In the early middle-game he tried to build up a Queen's side counter-attack; but unfortunately left his King exposed. Suddenly he was in a piece down, and his attack lay in ruins.

Gradually his position collapsed. An unforced blunder led to the loss of a Rook. The machine started to force exchanges he couldn't refuse. Soon he was defending desperately. Eventually it rolled down to a black Knight and one pawn against two white Rooks, a Bishop and two pawns. He was up against it.

Then the machine did something curious. It moved its Bishop into an unguarded position. Hex looked for a hidden trap.

McNull was the first to give a reason. "It knows how to win with King and two Rooks against King and Knight. The extra Bishop is an impediment in its eyes."

Hex tested this hypothesis by making a non-committal move. Sure enough, the machine replied by offering the Bishop up for sacrifice again.

It was as good as over. All he had to do was let Checkmate frantically offer up its Bishop. A draw by repetition of moves became inevitable.

Final score: Hex 1/4, Checkmate 1/2.

Is this his moment of triumph? Don't be too sure.

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